

REMARKS

Applicant appreciates the thorough examination of the present application as evidenced by the Office Action of December 21, 2007. Applicant respectfully submits that the pending claims are patentable over the cited combination for at least the reasons discussed herein.

The Section 103 Rejections

A. Claims 6-9 and 12-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent Publication No. 2004/63456 to Griffin (hereinafter "Griffin") in view of PCT Publication No. WO 1994/11953 to Todter *et al.* (hereinafter "Todter"). *See* Office Action, page 2. Applicant respectfully submits that many of the recitations of these claims are neither disclosed nor suggested by the cited combination. For example, Claim 6 recites:

A mobile terminal comprising:
a housing;
a microphone positioned in the housing;
a speaker positioned in the housing remote from the microphone; and
a multi-mode audio processor circuit configured to apply noise cancellation to first and second microphone inputs thereof, the first microphone input being coupled to the microphone and the second microphone input being coupled to the speaker,
wherein the speaker comprises a transducer and wherein the multi-mode audio processor circuit is configured to transmit sound from the transducer in a first mode of operation and to generate a composite audio signal from sound energy received by the microphone and the transducer in a second mode of operation.

Applicant submits that at least the highlighted recitations of independent Claim 6 are neither disclosed nor suggested by the cited combination for at least the reasons discussed herein.

The Office Action admits that nothing in Griffin teaches the highlighted recitations of Claim 6. *See* Office Action, page 2. However, the Office Action points to Todter as providing the missing teachings. *See* Office Action, page 3. Applicant respectfully disagrees. To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest all the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. §2143. A patent composed of several elements is

not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v. Teleflex Inc.*, 550 U. S. 1, 15 (2007)(emphasis added). A corollary principle is that, when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be unobvious. *Id.* at 12. If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.* at 13. A Court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 13. **When it is necessary for a Court to look at interrelated teachings of multiple patents, the Court must determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.** *Id.* at 14 (emphasis added). Applicant respectfully submits that there is no motivation to combine Griffin and Todter as suggested in the Office Action for at least the reasons discussed herein.

The Office Action states:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Todter with Griffin's device to implement active noise attenuation systems **without the need to use a microphone.**

See Office Action, page 3 (emphasis added). Griffin discusses first 12 and second communication modules 14 configured to communicate so as to allow, for example, hands-free operation of one of the communication modules. *See* Griffin, Abstract and paragraph 27. Figure 4 of Griffin illustrates a communication module configured to be received in a user's ear for hands-free operation of a second communication module. *See* Griffin, paragraph 32. As discussed in Griffin, the second communication module 14 may include a microphone 14d, a speaker 14a and "preferably includes a noise cancellation circuit with a background noise microphone 48." *See* Griffin, paragraphs 32-33. The noise cancellation circuit may be included because, as discussed in Griffin, the microphone 14d may pick up more than the user's voice, thus, the noise cancellation circuit to filter out background noise, *i.e.*, noise other than the user's voice.

Todter discusses an active noise cancellation system as stated in the title. In particular, as discussed in Todter, a bilateral transducer is provided that both senses ambient noise and produces acoustic noise. *See* Todter, Abstract. Thus, the bilateral transducer

taught by Todter replaces the microphone and the speaker provided in conventional noise cancellation systems. *See* Todter Abstract.

Applicant respectfully submits that there is no motivation to combine the communication device of Griffin with the active noise cancellation system of Todter. The reasoning provided in the Office Action is based on hindsight in view of Applicant's disclosure. As discussed above, a patent composed of several elements is not proven obvious merely by demonstrating that each of its elements was, independently, known in the prior art. There must be an apparent reason to combine the known elements in the fashion claimed. As discussed above, Griffin already teaches a noise cancellation filter in the second communication device and, thus, one of skill in the art would have no reason to look for the system provided in Todter. Accordingly, nothing in the Office Action or the cited art would motivate a person of skill in the art to combine the cited references without using Applicant's disclosure as a road map. For at least these reasons, Applicant respectfully submits that independent Claim 6 and the claims that depend therefrom are patentable over the cited combination.

Furthermore, even if combined, as discussed above, Todter teaches replacing the speaker and the microphone with the bilateral transducer. If the microphone 14d and the speaker 14a of Griffin were replaced with the bilateral transducer of Todter, the combination would not teach a microphone positioned in the housing; a speaker positioned in the housing remote from the microphone; and a multi-mode audio processor circuit as recited in Claim 6. Accordingly, Applicant respectfully submits that independent Claim 6 and the claims that depend therefrom are patentable over the cited combination for at least these additional reasons.

Furthermore, independent Claim 12 recites:

A mobile terminal comprising a multi-mode audio processor circuit operatively associated with a transducer, the multi-mode audio processor circuit being configured to operate the transducer as a speaker during a first mode of operation and a microphone during a second mode of operation.

Applicant respectfully submits that at least the highlighted recitations of Claim 12 are neither disclosed nor suggested by the cited combination for at least the reasons discussed herein. The Office Action points to the same portions of the references cited as teaching the recitations of Claim 6 as teaching the recitations of Claim 12. *See* Office Action, page 3.

Thus, Applicant submits that independent Claim 12 and the claims that depend therefrom are patentable over the cited combination for at least the reasons discussed above with respect to Claim 6.

As discussed above, the dependent claims are patentable at least per the patentability of the independent base claims from which they depend. However, many of the dependent claims are separately patentable for at least the reasons discussed herein.

For example, dependent Claim 8 recites " wherein the multi-mode audio processor circuit is configured to generate an audio signal from sound energy received by the microphone in the first mode of operation." Dependent Claim 14 contains similar recitations. The Office Action states:

Griffin further teaches that the processor (196) is configured to generate an audio signal from sound energy received by the microphone (14a) in the first mode of operation. (see paragraph 33).

See Office Action, page 4. Element 14a of Griffin is a speaker. The speaker does not have first and second modes during which it is a speaker and a microphone, respectively. *See* Griffin, paragraph 33. Furthermore, the only thing Griffin states about processor 196 is:

...The second communication module 162 preferably includes a microphone and a speaker 190, a short-range wireless transceiver 192, an antenna 194, a rechargeable battery 188, and possibly an integral processor 196...

See Griffin, paragraph 56. Accordingly, nothing in Griffin discloses or suggests a multi-mode audio processor circuit that is configured to generate an audio signal from sound energy received by the microphone in the first mode of operation as recited in dependent Claims 8 and 14 for at least the reasons discussed herein. Accordingly, Applicant respectfully submits that Claim 8 and 14 are separately patentable over the cited combination for at least the additional reasons discussed herein.

Dependent Claim 13 recites:

The mobile terminal of Claim 12 wherein the transducer comprises a first transducer, the mobile terminal further comprising:
a housing, the first transducer being positioned in the housing; and
a second transducer positioned in the housing and spaced apart from the first transducers, wherein the multi-mode audio processor circuit is further configured to transmit sound from the first transducer in a first mode of operation and to generate a

composite audio signal from sound energy received by the first and second transducers in a second mode of operation.

Thus, Applicant respectfully submits that dependent Claim 13 is patentable over the cited combination for at least the reasons discussed above with respect to Claim 6. Accordingly, Applicant respectfully submits that Claim 13 is separately patentable over the cited combination for at least the additional reasons discussed herein.

Dependent Claim 9 recites:

The mobile terminal of Claim 6 wherein the multi-mode audio processor circuit is further configured to combine first and second audio signals produced from sound energy received by the microphone and the transducer, respectively, in the second mode to generate a noise-attenuated audio signal.

Dependent Claim 15 contains similar recitations. The Office Action again cites to paragraph 33 of Griffin as teaching the recitations of Claims 9 and 15. *See* Office Action, page 3. Paragraph 33 of Griffin discusses a hands-free system having a microphone 14d and a speaker 14a. Nothing in Griffin discusses a single element having different functionalities in first and second modes. Claims 9 and 15 detail the second mode of operation. Accordingly, Applicant respectfully submits that Claims 9 and 15 are separately patentable over Griffin for at least the additional reasons discussed herein.

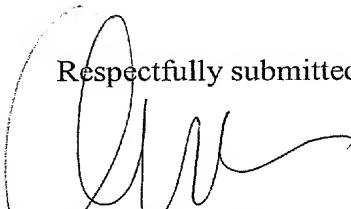
B. Claims 10 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Griffin and Todter in view of United States Patent No. 5,046,103 to Warnaka (hereinafter "Warnaka"). *See* Office Action, page 3. As discussed above, the dependent claims are patentable at least per the patentability of the independent base claims from which they depend.

C. Claims 11 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Griffin in view of Todter and Warnaka in further view of United States Patent No. 5,251,262 to Suzuki (hereinafter "Suzuki"). *See* Office Action, page 4. As discussed above, the dependent claims are patentable at least per the patentability of the independent base claims from which they depend.

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CONCLUSION

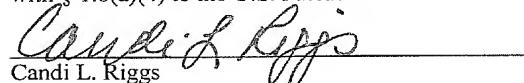
Applicant submits that the pending claims are in condition for allowance for at least the reasons discussed above. Favorable reconsideration of this application is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,

Elizabeth A. Stanek
Registration No.: 48,568

USPTO Customer No. 54414
Myers Bigel Sibley & Sajovec
Post Office Box 37428
Raleigh, North Carolina 27627
Telephone: 919/854-1400
Facsimile: 919/854-1401

CERTIFICATION OF TRANSMISSION

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Candi L. Riggs